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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/820,858	03/30/2001	David W. Cannell	05725.0844-00	3869

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EXAMINER

FUBARA, BLESSING M

ART UNIT	PAPER NUMBER
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1615

DATE MAILED: 08/27/2002 9

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/820,858

Applicant(s)

CANNELL ET AL

Examiner

Blessing M. Fubara

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 June 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-152 is/are pending in the application.
- 4a) Of the above claim(s) 10-12, 21-23, 27, 28, 30, 32, 34, 36 and 49-150 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9, 13-20, 24-26, 29, 31, 33, 35, 37-48, 151 and 152 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Examiner acknowledged receipt of response to election requirement filed 06/06/02.

Election/Restrictions

1. Applicants' election with traverse of group I in Paper Nos. 5 & 7 is acknowledged. The traversal is on the ground(s) that examiner had not shown that examining the groups and all of the claimed species would constitute a serious burden. This is not found persuasive because search and examination of group I would not necessarily be the same search for group II. The large number of species claimed presents examining and search burden on the examiner that a requirement for election of species is proper.

The requirement is still deemed proper and is therefore made FINAL.

Applicants elected group I and further elected polyquaternium-10 and glucosamine. Applicants also identified claims 1-48, 151 and 152 as the claims readable on the elected species. However, polyquaternium-10 is a representative of "said at least one compound comprising at least two quaternary ammonium groups" and glucosamine is a representative of "at least one compound comprising at least one C₅ to C₇ saccharide unit substituted with at least one amino group." Therefore, claims 10-12, 21-23, 27, 28, 30, 32, 34 and 36 are withdrawn from the group of claims 1-48 because the designated claims are drawn to non-elected species. Thus claims 10-12, 21-23, 27, 28, 30, 32, 34, 36 and 49-150 are withdraw from consideration because the claims are drawn to non-elected species (37 CFR 1.142).

Claims 1-9, 13-20, 24-26, 29, 31, 33, 35, 37-48, 151 and 152 are examined.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

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The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

4. Claims 6, 7 and 31 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

- a) Claim 6 recites “derivatives of polysaccharide polymers.”
- b) Claim 7 recites “cationic starch derivatives” and “cationic guar gum derivatives.”
- c) Claim 31 recites “derivatives of C₅ to C₇ saccharide units.”

The specification fails to describe what these derivatives are. Applicants may amend the specification to use a language that says that --- derivatives of polysaccharide polymers are.... The same goes for 4b) and 4c). The language of ---such as--- and for example does not specifically convey what derivatives are applicable in the invention. Applicants may also overcome this rejection by reciting the derivatives using a Markush type format.

5. Claims 6-9, 31 and 33 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 6, 7 and 31 recite “derivatives” with out reciting what these derivatives are. Applicants may overcome this rejection by reciting what the derivatives are with a Markush language.

Suggestion: Markush language may be used to recite the limitations in claims 20 and 47 in place of the word “chosen.”

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1-9, 16, 17, 19, 20, 24-26, 29, 31, 33, 35, 45, 46 and 47 are rejected under 35 U.S.C. 102(b) as being anticipated by Gruber (US 5,597,811).

Gruber teaches a composition comprising water-soluble polyglucosamine derivatives (abstract and column 2, lines 17-27). In the background, Gruber discloses that polyglucosamines are polysaccharides that have glucose monomer units having amine groups and examples are chitin, chitosan and polyglucosaminoglycans (column 1, lines 13-24). One preferred end use for Gruber's composition is in personal care compositions formulated as skin creams, lotions, cleansing products, conditioners, hairsprays, mousses and gels (column 7, lines 62-66). The personal care compositions also include personal care ingredients such as vitamins, oils, alcohols, glycerine, sorbitol, fragrances, preservatives and surfactants (column 8, lines 1-14). Gruber further teaches that typical cleaning compositions contain surfactants (column 8, lines 28-36), typical aerosol and non-aerosol compositions contains low molecular weight alcohol, methacrylate copolymer, dimethicone copolyol and aminomethyl propanol (column 8, lines 37-43), typical creams contain mineral oil, water, methyl glucose sesquistearate, isopropyl palmitate and carbomer stabilizer (column 8, lines 44-49), typical mousses contain surfactant,

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isopropyl palmitate and polyquaternium-10 or poly(vinylmethacrylate)/methacrylate copolymer (column 8, lines 50-54) and a typical gel contains the ingredients listed in column 8, lines 55-59).

In the broadest sense, polyglucosamine has many glucosamine units, and regarding instant claim 1, effective amount is any amount of the composition, and future intended use is not critical in a composition claim and the comprising language of the instant claims allows for the presence or incorporation of other ingredients.

The broad scope of the claims is encompassed in Gruber and Gruber thus meets the limitations of the claims.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 1-9, 13-20, 24-26, 29, 31, 35 and 37-48 rejected under 35 U.S.C. 103(a) as being unpatentable over Dunlop et al. (US 2002/0102228) in view of Gruber (US 5,597,811) and further in view of Yoshihara et al. (US 5,332,581).

Dunlop discloses anti-dandruff conditioning shampoo compositions and said compositions comprise anionic surfactants, conditioning agents, anti-dandruff agents, cationic polymers and water (abstract and section [0015] and [0022]). Zwitterionic surfactant is one of the surfactants in the anti-dandruff conditioning shampoo ([0025]). Silicone oils and cationic silicones are few examples of conditioning agents in the anti-dandruff conditioning shampoo of

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Dunlop ([0046] and [0049]). A soluble anti-dandruff agent in Dunlop is ketoconazole ([0018]).

Cationic polymers in the anti-dandruff conditioning shampoo of Dunlop are cationic polysaccharides and one of the cationic polysaccharide listed in glucosamine amine sugar ([0127-0144]). Dunlop states that mixtures of cationic polysaccharides can be used and polyquaternium 10 is preferred cationic celluloses ([0144 and 0148]).

Optional components in Dunlop are additional surfactants, where the surfactant is based on quaternary ammonium moiety having counter ions selected from halogens, acetate, citrate, lactate, glycolate, phosphate nitrate, sulfate and alkyl sulfate radicals ([0178 and 0179]), suspending agents such as xanthan gum ([0189]), polyalkylene glycols ([0173]), hair growth regulating agents such as vitamins ([0213]), and other optional agents such as anti-static agents are incorporated into the anti-dandruff conditioning shampoo ([0218]).

Dunlop discloses a composition that encompasses most aspects of the claimed invention except that Dunlop is silent as it relates to the heat activation step of claim 48.

But Yoshihara et al. (US 5,332,581) discloses hair treatment composition anionic surfactants, one or more cationic polymers selected from cationic starch, cationized guar gum derivatives, diallyl quaternary ammonium salt/acrylamide copolymers, silicone derivatives, and dyes (columns 3 and 4, column 5, lines 1-26). Yoshihara teaches that it is desirable that the composition is applied to the hair, heated at 30-50 °C for 10-35 minutes and then washed away to further achieve improved effects (column 5, lines 52-57).

Yoshihara is thus relied upon for the heat activation step of claim 28 and Gruber is relied upon for disclosing a composition that comprises glucosamine and polyquaternium-10.

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As it relates to claims 14, 15, 43 and 44, amounts of quaternary ammonium groups represents optimization of the composition and “[w]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum workable ranges by routine experimentation.

As it relates to a composition comprising glucosamine and polyquaternium-10, Dunlop suggests that mixtures of cationic polysaccharides can be used and one of the preferred cationic celluloses is polyquaternium 10 ([0144 and 0148]) while listing glucosamine amine sugar as a cationic polysaccharide. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to prepare the anti-dandruff conditioning shampoo of Dunlop where the composition comprises both glucosamine amine sugar and polyquaternium-10 since Gruber teaches hair composition that comprises both quaternary ammonium compounds. One having ordinary skill in the art would have been motivated to apply the conditioning shampoo of Dunlop to hair and heat at 30-50 °C for 10-35 minutes because Yoshihara teaches heat activation step.

10. Claims 151 and 152 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dunlop et al. (US 2002/0102228) in view of Rath et al. (US 5,993,792).

Dunlop clearly teaches hair conditioning shampoo composition comprising anionic surfactants, conditioning agents, anti-dandruff agents, cationic polymers and water. However, Dunlop fails to teach how the product is packaged. It is known in the art that hair products are packaged as kits. Specifically, Rath discloses packing hair products as kits (column 1, line 12 and column 13, lines 21-43). Therefore, it would have been obvious to one of ordinary skill in

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the art at the time the invention was made to package the hair product of Dunlop because it is known in the art and Rath teaches packaging hair products as kits.

11. Claims 14, 15, 39-44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gruber (US 5,597,811) in view of applicants admitted prior art.

Gruber clearly teaches hair care composition comprising polyglucosamine derivatives, surfactant, isopropyl palmitate and polyquaternium-10 or poly(vinylmethacrylate)/methacrylate copolymer but fails to teach that the composition may comprise at least one additional sugar. But applicants on page 3, lines 5-15 of the specification admit that sugars and sugar derivatives are added to hair care compositions and specifically that sugars improve the tactile and elastic properties of natural hairs and helps the hair to retain moisture. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include sugars to the composition of Gruber because adding sugars to the hair composition of Gruber would improve the tactile and elastic properties of the hair and also help the hair to retain moisture according to applicants' admitted prior art.

As it regard to claims 14, 15, 43 and 44, amounts of quaternary ammonium groups represents optimization of the composition and "[w]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum workable ranges by routine experimentation.

12. The specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicants' cooperation is requested in correcting any errors of which applicants may become aware in the specification including the claims.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Blessing M. Fubara whose telephone number is 703-308-8374. The examiner can normally be reached on 7 a.m. to 3:30 p.m. (Monday to Friday).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thurman K. Page can be reached on 703-308-2927. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-3592 for regular communications and 703-305-3592 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1234.

Blessing Fubara
August 24, 2002


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